

# ***Stormwater Facts***

**What it is ....**

**Why it is important ....**

**How to protect stormwater quality ....**

***City of Knoxville  
Department of Engineering***



## ***What it is ....***

Stormwater is water from precipitation that flows across the ground and pavement due to rain or snowmelt (or also called stormwater runoff). The water may seep into the ground, flow in ditches or streams, or enter the storm drain system. The storm drains are what you see at street corners or at low points on the sides of your streets. The storm drains then lead to a discharge point such as an open channel or directly into one of the many natural creeks within the City of Knoxville.

The natural creeks have a small amount of baseflow that is caused by groundwater recharge and high water tables; the baseflow is relatively clean.

When it rains, the baseflow is supplemented by stormwater runoff from parking lots and city streets. The baseflow is relatively clean groundwater that flows at a low velocity. Stormwater runoff tends to pick up garbage, debris, sediment, chemicals, automotive fluids and other pollutants; stormwater runoff is relatively dirty and will harm the fish and other wildlife living in the natural creeks.



Storm drains contain runoff that is not treated by the City of Knoxville prior to entering our natural creeks and streams. Sanitary sewers, however, convey wastewater from houses, businesses and industries to one of the city wastewater treatment plants. Storm drains are a completely different system than the sanitary sewers. Storm drains, therefore, usually travel anywhere from a few hundred feet up to several miles in underground pipes before being discharged.

## ***Why it is important ....***

Stormwater runoff is a major problem when it picks up garbage, debris, sediment, chemicals, automotive fluids, fertilizers, leaves and other pollutants from parking lots, yards, city streets, shopping malls, house roofs, etc. This type of pollution is called nonpoint source (NPS) pollution and is more of a problem than direct discharges from commercial industries and plants, which have NPDES (National Pollution Discharge Elimination System) permits as mandated by the U.S. Environmental Protection Agency. The City of Knoxville is forced by the state government to have a municipal NPDES permit for all waters that discharge from the city storm drain system and the natural creeks. The municipal NPDES permit requires that the city provide information and education programs, monitoring stations, stormwater inspectors, stormwater manuals, etc. The result of unclean stormwater runoff discharges is the loss of fish and aquatic wildlife from the city creeks, signs that say no fishing or no swimming,



## ***Help protect your water!***

***If you see illegal dumping into storm drains or into creeks, call immediately!***

***Water Quality Hotline 215-4147 (24-hour hotline)***

To enforce Knoxville's stormwater quality regulations, the City may fine those who violate the laws up to \$5000 for each day that a violation occurs or until the violation is corrected.

## How to Protect Stormwater Quality ....

The best way to protect stormwater runoff quality is to avoid polluting in the first place. Conserve and recycle resources such as newspapers, plastic containers, glass jars, and metal cans at either the City recycling center or local grocery stores such as Krogers.

- Don't dump hazardous substances such as used oil, household chemicals, yard fertilizer, or other wastes onto pavement or into storm drains.
- Practice street sweeping, picking up litter, and disposing of leaves and yard waste.
- Prevent excess runoff of pesticides, fertilizers, and herbicides by using them properly and efficiently.
- Participate in local garbage and debris pickup days, and recycle household hazardous waste materials to prevent storm drain contamination.
- Encourage active citizen participation in stormwater protection and public group education on stormwater quality.
- Prevent sewage overflows to the creeks by diverting gutter drains away from the sanitary sewer system.



Common household contributions to stormwater pollution:

- Vehicle drips and leaks (oil, grease, gasoline, antifreeze, brake fluid) – particularly on paved areas.
- Overuse of lawn fertilizers, herbicides and pesticides.
- Pet wastes and food wastes – particularly on paved areas – allows harmful bacteria and viruses into natural creeks.
- Incorrect disposal of paints, solvents, cleaning fluids and other chemical agents.



You may dispose of the following substances at the Household Hazardous Waste Collection Center at 1033 Elm Street. See website for more information at <http://www.ci.knoxville.tn.us/solidwaste/>

Motor Oil	Antifreeze	Batteries	Refrigerants
Pesticides	Herbicides	Plastics	Cleaning Solutions
Yard Waste	Paint	Solvents	Fluorescent Tubes



## How can I get involved?

There are many opportunities to become involved with stormwater cleanup efforts. These programs are coordinated by the Ijams Nature Center (577-4717) and by Keep Knoxville Beautiful (<http://www.kor.net.org/keepknox>) organizations.

### Adopt-A-Creek:

Organize or join a community group to “adopt”, clean, and protect a portion of a creek or stream in your area!

### Operation Storm Drain:

Let everybody know that storm water quality is vital to Knoxville's creeks by helping to stencil the message “Dump No Waste - Drains to Stream” on storm drains.

### River Rescue:

Participate in the annual spring challenge to clean **50** miles of Tennessee River banks!



The City of Knoxville has a Creek Cleanup work crew that removes garbage and debris from the creeks on a rotating basis. The work crew may also perform some minor grading or maintenance within creek channels as needed.

## City of Knoxville Engineering Department Planning Division Stormwater Management

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